

This listing of claims will replace all prior versions, and listings, of claims in the Application:

**Listing of Claims:**

Claims 1-3 (Previously cancelled).

4. (Original) A  $\Sigma\Delta$  modulator with a filter system having reduced switch thermal noise comprising:

an input circuit for receiving an input signal and a quantized feedback signal and providing a signal representative of the difference;

a filter circuit including at least an input sampling capacitor and switch which introduces thermal noise error;

a quantizer circuit for quantizing the output of said filter circuit;

a feedback circuit, responsive to said quantizer circuit, for delivering to said input circuit said quantized feedback signal; and

said input circuit including means for amplifying said difference signal, before it is submitted to said filter circuit to reduce the input-referred thermal noise by a factor of approximately the gain of the amplification.

5. (Original) The  $\Sigma\Delta$  modulator with a filter system having reduced switch thermal noise of claim 4 in which said gain is greater than one.

6. (Original) The  $\Sigma\Delta$  modulator with a filter system having reduced switch thermal noise of claim 4 in which said input circuit includes a summing circuit for receiving an input signal

and a feedback signal and providing a signal representative of the difference and an amplifier circuit for amplifying said difference signal, before it is submitted to said filter circuit to reduce the input-referred thermal noise by a factor of approximately the gain.

7. (Previously cancelled)

8. (Previously cancelled)

9. (Currently amended) A  $\Sigma\Delta$  modulator with a filter system having reduced switch thermal noise comprising:

a summing circuit for receiving an input signal and a quantized feedback signal and providing a signal representative of the difference;

a filter circuit including at least an input sampling capacitor and switch which introduces thermal noise error;

a quantizer circuit for quantizing the output of said filter circuit;

a feedback circuit, responsive to said quantizer circuit, for delivering to said summing circuit said quantized feedback signal; and

an amplifier circuit for amplifying said difference signal, before it is submitted to said filter circuit to reduce the input-referred thermal noise by a factor of approximately the gain of said amplifier circuit./

10. (Original) A  $\Sigma\Delta$  modulator with a filter system having reduced switch thermal noise of claim 9 in which said amplifier circuit has a gain greater than one.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned or his associates, collect in Waltham, Massachusetts, at (781) 890-5678.

Respectfully submitted,

A handwritten signature in cursive script, reading "David W. Poirier", written in black ink.

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David W. Poirier  
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